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Presence in Second Life

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THE AVATAR-SELF RELATIONSHIP: ENACTING PRESENCE IN SECOND LIFE

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Abstract

Avatars are technological artifacts that provide communicators a body in virtual spaces. It is through this affordance of embodiment that people, places and things are made concrete, tangible, and present. Presence consists of two interrelated phenomena: (i) telepresence: the sense of being there, and (ii) social presence: the sense of being together with others. In the context of virtual worlds, telepresence or the degree of immersion and engagement in the computer-mediated space is achieved through communicators' interaction with their avatar, and social presence through their interaction with others as an avatar. Building on this typology, we develop a multi-dimensional conceptual framework of the avatar-self relationship, that is, the interaction between a communicator and his/her virtual (re)presentation. Relying on data collected via photo-diary interviews from residents of Second Life, a virtual world, we then identify and empirically describe various enactments of the avatar-self relationship. Our results highlight that Second Life residents enacted multiple avatar-self relationships and cycled through them in quick succession, suggesting that these avatar-self relationships might be shaped and activated strategically in order to achieve the desired educational, commercial or therapeutic outcomes.

Keywords: Virtual Worlds, Telepresence, Social Presence, Boundary Theory, Identity

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Introduction

Avatars are the representation of ‘real life’ (RL) communicators in virtual worlds. Increasingly, they are cornerstones of the 3D web, that is, the conversion of the Internet into a three-dimensional information space, as they are also being incorporated into email, chat and social networking sites. Avatars are technological artifacts that provide communicators a body in virtual spaces. It is through this affordance of embodiment that people, places and things are made concrete, tangible, and present (Schultze and Rennecker 2007). Practices of the body (Taylor 2002), such as sitting on a chair or dancing with someone, give communicators a sense of being there and of being immersed and involved in the virtual events and spaces.

Presence, in computer-mediated environments, is achieved when interactions with people and objects seem real, direct and immediate. Thus, presence has come to mean “the perceptual illusion of non-mediation” (Lombard and Ditton 1997). Biocca et al (2003) highlight that presence typically consists of two interrelated phenomena: (i) *telepresence*: the sense of being there, and (ii) *social presence*: the sense of being together with others. These two forms of presence are evident in virtual worlds, in which communicators negotiate telepresence or the degree of immersion and engagement in the mediated space through their *interaction with their avatar*, and social presence through their *interaction with others as an avatar*.

As educators are seeking to employ virtual worlds for learning through simulation and organizations are interested in facilitating global team meetings via 3D web technologies and in marketing their real-life wares in virtual worlds, issues of presence, especially the communicator’s, are increasingly important. Given that avatar appearance and behavior can be manipulated quite easily, educators’ and organizations’ key concerns revolve around the degree of congruence between the target of the communication, that is, the real-world student, co-worker or customer, and his/her avatar (Hemp 2006). Thus, the relationship between communicators and their virtual (re)presentation, here referred to as the *avatar-self relationship*, needs to be understood.

The purpose of this research is to provide insight into the avatar-self relationship by focusing on presence as the avatar’s key affordance. Our research objective is to identify the types of avatar-self relationships that communicators enact in virtual worlds. To this end, we develop a multi-dimensional framework for conceptualizing the avatar-self relationship and then empirically demonstrate the different types of relationships that are enacted along the tele- and social presence dimensions.

Unlike prior studies of the relationship between real and virtual selves, which have presented this relationship as either highly fragmented (Turkle 1995) or highly stable (Bessiere et al. 2007), we focus on its situated and dynamic nature. For instance, the same communicator might, in quick succession, perceive her avatar as merely a 3D cursor that enables immersion in a virtual setting, as an object for reflecting on her real-life self, and as an independent agent. Alternatively, a communicator might perceive his avatar as a virtual representation of his real-life self in one instance, then as an ideal self, and later as a truer self, that is, one liberated from real-life corporeality and societal norms (Taylor 2002).

We begin this paper by reviewing the prior research on the avatar-self relationship. Then we will build our multi-dimensional framework by first developing a theoretical understanding of its components – avatars, the self and the relationship between them – separately, and then assembling them into a coherent theoretical scaffolding. Next, we will outline our research method, followed by insights from our empirical investigations. We conclude by considering the implications of our findings for educational, organizational and commercial applications of virtual worlds.

Some Prior Research on the Avatar-Self Relationship

The first online, virtual worlds were developed in the 1980s (Ito 1997). They took the form of MUDs (multi-user dungeon/domain) and MOOs (MUD, object oriented), in which players used text rather than graphics to create

“characters” or “online personae,” as well rooms and public spaces for interaction. Thus, even though avatars as technological artifacts came into focus only relatively recently, as part of graphical virtual worlds, MUD researchers have explored many of the issues surrounding the avatar-self relationship, such as living “on the threshold between the real and the virtual” (Turkle 1997: 80) and the negotiation of identities and gender roles in online communities (Kendall 2002). We will review some of these insights as well as some of the more recent research on avatars in graphical virtual worlds.

Turkle’s (1995) research on MUDs highlighted the role of technology in making explicit that identity is not singular and unitary, but multiple and fragmented. Her research demonstrated how MUDers used different windows to role-play multiple online personae simultaneously, thus highlighting the multitude of distributed selves that reflect the multiple aspects of the individual. In many instances, the online characters represented virtual identities that were unavailable to MUDers in their real, offline lives. As such, MUDers can be seen as exploring and experimenting with possible selves, that is, an individual’s ideas about what s/he might become, would ideally like to become or is afraid of becoming (Markus and Nurius 1986). This notion of the self as multiple, fluid and always-incomplete challenged traditional notions of identity or self-sameness, and the consistency, coherence and constancy it implies (Czarniawska 2008).

However, Turkle’s research has been criticized for not sufficiently considering the role of social identity in the avatar-self relationship. For instance, Shiano (1999) reported that most LambdaMOO participants tended to have only one, at most two, avatars and that they were concerned about their avatar’s sociality. Thus, even though their avatars did not identify their owner in real life and assured anonymity in this sense, they nevertheless had pseudonymity or a stable self-presentation, a requirement for long-term social cohesion (Goffman 1959). Contrary to Turkle’s assertions, the members of LambdaMOO sought consistency, coherence and continuity in their online personae. A deep exploration of multiple, possible selves was not the MOOers primary preoccupation. Similarly, Kendall (1998) found that many MUDers she studied resisted the notion that their online identities were fluid and performed.

In contrast to Turkle’s apparently over-fragmented depiction of the avatar-self relationship, Bessiere, Seay & Kiesler’s (2007) seems overly static. Relying on a cognitive and relatively unitary view of the self, they surveyed World of Warcraft players to assess the differences between their real, their virtual and ideal selves. Consistent with Lawson (2000), they found that avatars represent aspirational identities. In other words, players rated their avatar as psychologically closer to their ideal than to their real selves. In particular, players rated their avatars less neurotic, more conscientious and more extroverted than themselves.

In addition to these field studies, which rely on users’ experiences with their own avatars, there are a number of lab studies where avatars were assigned to participants. For instance, Yee and Bailenson’s (2007) lab experiment highlighted that people with taller avatars negotiated more confidently and assertively than those with shorter avatars. Galanxhi and Nah (2007) found that in avatar-mediated chat, users were less anxious when they engaged in deceptive behavior than their counterparts in text-based chat. They suggest that the avatar as “mask” provided communicators another layer of anonymity that distanced them from others.

While all of these studies provide us clues into the avatar-self relationship, they fail to give us insight into the complex and dynamic interactions between a communicator and his/her avatar. As simulations, avatars are not only evocative objects, that is, objects to think with (Turkle 2007), but also technologies that people make sense of by “cycling through,” that is, like a bricoleur, they apply whatever theory they have to hand and fit it to the rapidly changing circumstances (Turkle 1997). In her research on the lifelike properties of computational objects, Turkle observed this phenomenon. Instead of constructing coherent hierarchies of meaning, people developed multiple definitions, which they alternated by cycling through them in quick succession. Turkle (1997: 82) provides the following illustration: “A thirty-seven year old lawyer found the same software not alive because life “isn’t just replicating bits of information”; alive “like a virus”; not alive because “life in a parallel universe shouldn’t count as life”; alive “but real life”.”

Applying this notion of cycling through, we propose that even within the same avatar-communicator couple, the avatar-self relationship is not stable and unitary, but dynamic and multiple. In one instance, the communicator might perceive his avatar as a bundle of resources (Castronova 2005), as a vehicle for exploring intimacy and identity in virtual world (Bardzell and Odom 2008), and as an expression of a his true self (Taylor 2002). In another instance, the same communicator experiences his avatar like a character in a role-playing situation, and simultaneously as an exploration of his possible self (Talamo and Ligorio 2001). By developing a theoretical framework for conceptualizing the avatar-self relationship and by identifying the different types of relationships that

residents of Second Life enact, this research provides insights into the dynamic and situated nature of the avatar-communicator pairing.

The Avatar-Self Relationship: A Multi-Dimensional Framework

To develop a theoretical framework with which to conceptualize the avatar-self relationship and to analyze the empirical data, we will start by considering each part of this construct separately. In other words, we will develop the conceptual infrastructure for avatar, self and relationship first, and then assemble them into a coherent, multi-dimensional framework.

Avatars: Technologies of Embodiment and Presence

The term “avatar” is synonymous with “embodiment” (Merriam-Webster Dictionary). For instance, in Hindi, the term signified a deity’s descent into the real world and its incarnation in human form. In computing environments avatars are 3D, 2D (pictures, icons), or text-based representations of individual communicators in virtual worlds, Internet forums and MUDs respectively. In 3D environments, avatars are virtual bodies that typically have the following technological features in 3D environments:

- A body whose genus (e.g., human, animal, machine) and features (e.g., shape, skin, eyes, hair) are more or less customizable.
- Possessions or objects such as clothes, furniture, weapons and currency, which are frequently stored in an inventory.
- Animations embedded either in the avatar itself or in the objects it interacts with, to enable practices of the body such as sitting, dancing or fighting.
- A profile that contains personally identifying information such as name, group affiliations and interest.
- A camera, which can frequently be separated from the avatar body, thus facilitating different forms of gaze, such as “mouselock” to gain a first-person view of a situation, “camming” to view environments that are distant from the avatar or an “over the shoulder” setting, in which the avatar is seen in context.
- Modes of communication including voice, open and private chat (or instant messaging), as well as notecard and textures for sending textual and graphical information as file attachments.

All of these features enable and constrain presence (Biocca et al. 2003), that is, the communicator’s sense of being there and being immersed in the virtual world both in *interaction with his/her avatar* (telepresence), and in *interaction with others as an avatar* (social presence). By focusing on the communicator’s (rather than the recipient’s) experiences of these forms of presence, we suggest that the avatar-self relationship consists of two dynamically intertwined dimensions:

- **Telepresence**, which captures the interaction between the communicator and his/her avatar and thus has implications for *immersion* in virtual spaces, and
- **Social presence**, which captures the interaction between the communicator, in avatar form, and others and thus has implications for the communicator’s *(re)presentation of self*.

Given that the social presence dimension of the avatar-self relationship is focused on communicators’ self-presentation to others and to themselves, we will expand on this dimension by exploring the concept of the self.

Self: The Structure of the Self

In their survey of the meaning of “self,” Leary and Tangney (2003) identify five distinct ways in which behavioral and social researchers typically use the term. For instance one notion of self is that of an inner psychological entity that is both the center and the subject of an individual’s experience. For this research, we will adopt the broadest definition of self offered by Leary and Tangney’s (2003) review, namely that of the “self as total person.” Given that the avatar-self relationship is intended to capture the multitude of ways in which a communicator interacts with and relates to his/her avatar, this definition of self seems most appropriate in that it is synonymous with the person in his/her entirety, not merely as a psychological entity.

William James' (1890: 291) definition of self as "the sum total of all that he CAN call his, not only his body and his psychic powers, but his clothes and his house, his wife and his children, his ancestors and his fiends, his reputation and works, his lands, and yacht and bank account" is an example of the self conceptualized as the total person. To gain a better understanding of the components that make up this self, we rely on research on the structure of the self, which divides the self concept into categories considered "self" and "not-self" (e.g., Dixon and Street 1975), or core and extended aspects (Belk 1988). Aspects of the self that make up the core, in order of importance, are (Prelinger 1959):

- Body parts, e.g., skin, facial features, organs, gender;
- Psychological or intra-organismic processes, e.g., the conscience, fear, joy, sexual arousal;
- Personal identifying characteristics and attributes, e.g., name, age, one's education; and
- Possessions and productions, e.g., clothes, house, output of creative work, perspiration.

This research found that, in addition to physical proximity as a determinant of an item's inclusion in the definition of self, objects over which a person has control or which he/she can manipulate, as well as objects that affect him/her in some fashion, were more likely to be classified as part of the self. Thus, (i) other people, e.g., family and friends, (ii) objects within close proximity, e.g., furniture in the room, and (iii) abstract ideas, e.g., the law, social norms, were not regarded as part of the core self.

This theory of the self provides us with a useful structure for developing a multi-faceted framework for conceptualizing the avatar-self relationship, particularly its social presence dimension.

Relationships: Integration and Segregation

A central theme of the research on virtual worlds is on the increasingly blurred boundaries between work and play (Malaby 2007), between reality and fantasy (Taylor 2006), and between reality and virtuality (Wolfendale 2007). The negotiation of these dichotomies is evident in the avatar-self relationship also, suggesting that boundary theory might provide us with an authentic way of conceptualizing the relationship between the communicator and his/her avatar.

Boundaries are physical, temporal, emotional, cognitive and/or relational limits that define entities (Ashforth et al. 2000). Boundary theory explains the mechanisms through which individuals and collectives create and maintain definitions and meanings through classification, differentiation and separation. It has been employed in numerous disciplines including political science, anthropology, psychology and sociology. In the organizational theory realm, it is frequently used to explain role identities – goals, values, beliefs, norms and interaction styles associated with the self in a given role – and role conflict especially as they relate to home and work domains (Ashforth et al. 2000; Sundaramurthy and Kreiner 2008). Home-related role identities may include "father" and "husband," whereas work-related roles may include "manager" or "temp."

The different roles that an individual plays can be arranged on a continuum delimited by segregation and integration. Segregated roles have thick boundaries, characterized by inflexibility and impermeability. For instance, sex workers might stringently separate their work role – and the values, beliefs, emotions, thoughts, activities and objects associated with it – from their home roles as "parent" or "spouse," by clearly demarcating the domains of work and home and by changing their appearance in a transitional space. As segmenters, they define different ways of being and live out different selves in each context. In contrast, a commission-earning salesperson might define more fluid boundaries between her work and family roles. By taking phone calls from customers after normal work hours (e.g., in the evenings or on the weekend) she permits a high degree of overlap and integration between home and work identities.

It is important to remember that identity boundaries are socially constructed and situated. This suggests that the avatar-self relationship is not binary – either integrated or segmented – but multi-dimensional and located at different points of the continuum at different points in time. To capture this dynamism, we rely on the concept of "differential permeability" (Sundaramurthy and Kreiner 2008). This means that the avatar-self relationship is along the integration-segregation continuum by virtue of the fact that it tends towards segregation on some dimensions and integration on others. For instance, individuals might seek integration on the personally identifying dimension by using their real-life name to identify the avatar, but then segregate on the body part dimension by choosing an avatar skin color that is different from their real-life complexion.

Towards an Integrated Framework

Combining the theory elements identified for the three components of the avatar-self relationship, namely, the avatar, the self and the relationship, we arrive at the following conceptual framework (Figure 1). It integrates (i) the two types of presence, telepresence and social presence, the two primary dimensions of the avatar-self relationship, (ii) the structure of the self, which identifies the facets of self-presentation to enact social presence, and (iii) the continuum of identity segregation and integration derived from boundary theory.

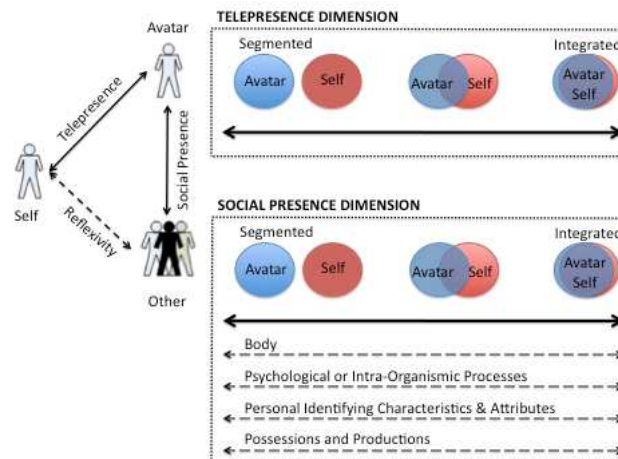


Figure 1: Integrated Framework of Avatar-Self Relationship

The dotted line between the “self” and “other” in Figure 1 indicated the self-reflexive aspect of the social presence dimension. As an avatar, the communicator is not only made present to others, but also to him/herself. Whereas the telepresence dimension captures the personal interaction between the communicator and the avatar as a technology, this reflexive relationship captures the communicator’s interaction with him/herself as a social being in avatar form.

Method

This research drew its sample from one virtual world, Second Life (SL), chosen for reasons including (i) its large membership (about 16.8 million accounts in December 2008), (ii) the diversity of activities (including gaming, education and commerce), landscapes, as well as avatar appearance and behavioral characteristics it supports, and (iii) its ownership policies and economic openness, which encourages SL residents to develop their own virtual objects and businesses. The openness of the SL platform and the peer-produced nature of its content implies that SL residents have to define and enact their in-world identities, activities and interests, thus making it a particularly suitable setting for exploring the diverse range of avatar-self relationships.

Even though most of the participants had more than one avatar, the focus of this research was on their main avatar. While most participants had no difficulties distinguishing their main avatar from their “alts,” in the case of one participant, who spent an equal amount of time with each of her two avatars, her interactions with and as both avatars were studied.

The data collection method was intended to gain maximal insight into the participants’ own understanding of their identity performance as an avatar-self couple. Data was collected in two phases:

Phase #1: An initial 2-hour, face-to-face interview. The purpose of this interview was to gain background information on the participant’s use of Second Life, to be introduced to their primary avatar, the groups they had joined and the places where they spent most of their time. An interview protocol that outlined questions to address these different areas was used to guide this first interview. In order to explore the degree of separation between the participant and the avatar, a number of the questions in the protocol were worded in a way that the avatar, not the participant, became the focus. For instance, “Introduce me to [avatar name],” or “How does [avatar name] make friends?” These initial interviews were held in bookstores that offered wireless Internet access. A key objective of the face-to-face meeting was to build the kind of rapport and trust needed to continue with Phase 2 of the research.

Phase #2: Weekly photo-diaries (for 3 weeks), which provided the basis for weekly photo-diary interviews. These interviews were conducted by phone and took about 1 hour each. This interview method was inspired by research in human geography (Latham 2003), which in turn is an adaptation of the “diary:diary-interview” method developed by sociologists (Zimmerman and Wieder 1977). Diary methods approximate observational research and are particularly useful in situations in which first-hand observations are not possible, such as in computer-mediated environments or when participants are on the move (Czarniawska 2007). This is because diary methods afford the possibility of gaining some degree of access to naturally occurring events, as well as their meaning and significance.

The photo-diary interview method relies not so much on intimate journals as on annotated logs kept by the research participants. These diaries are then used as the basis of intensive interviewing (Zimmerman and Wieder 1977). Since SL has a “snapshot” feature, it is very easy and efficient for participants to take photos and provide a few annotative statements (i.e., answering when, what, why, who, and how questions for every snapshot) to construct the diary. Thus, the time burden typically associated with diary methods was significantly reduced.

Participants were asked to proceed with their SL activities as they normally would, but to take a snapshot of incidents or instances that were in some way meaningful, significant or important to them. These snapshots were then pasted into a photo-diary template, supplied by the researcher, that outlined the annotation questions. Participants were asked to include at least 5 snapshots in each weekly diary and to submit the diary at least 12 hours prior to the scheduled phone interview. During the diary interview, the incidents documented in the photo-diary were used to explore the participants’ avatar-self relationship in a situated context. These interviews were not guided by an interview protocol. Instead, the principal researcher formulated questions based on her reading of the photo-diary in preparation for the interview. Probing questions were asked based on insights gained from prior interviews, as well as incidents in the current photo-diary and previous ones. As in the first interview, some questions were intended to explore the separation between the participants and their avatar by asking about the avatar’s thoughts, feelings and actions.

Between July and September 2008, 14 SL residents (see Table 1 for summary) participated in this study. Each participant lived in a large metropolitan area in the southwestern U.S., and spent at least 10 hours a week in world. The first sampling criterion was a logistical necessity, as the initial interviews required a real-world meeting with the principal researcher. The second qualification ensured that the residents were sufficiently engaged in SL to have purposive activities, friends and group memberships. This increased the likelihood that their photo-diaries would be a reflection of naturally occurring incidents rather than encounters and events sought out to satisfy the research.

Participants were recruited via Craigslist and SL groups that had some association with the targeted geographic area. Given the considerable time commitment required by this research, that is, ~8 hours over a 4-week period, participants were paid \$150. With the participants’ permission, all interviews were tape-recorded.

Table 1: Summary of Participants

Total # of Participants	14	
- Male	5 (1 with female avatar)	
- Female	9 (all with female avatars)	
- Couple	3 (2 couples were married in both RL and SL; 1 couple met in SL during course of interviews)	
RL Age	Range: 22-57 years	Mean: 36.7 years
SL Age/Tenure	Range: 1 week – 3 years	Mean: 15.6 months
Primary Activity in SL		
- Business	5	
- Social	8 (including social advocacy)	
- Education/learning	1	

The photo-diaries and the transcribed interviews were read repeatedly by both the principal researcher and a research assistant. As a result, avatar-self categories emerged (e.g., avatar as virtual me and independent agent). Other categories were derived from the literature, (e.g., possible self, true self, character, evocative object). Using these two sets of categories, the research assistant then coded the photo-diaries and interviews in NVivo. While the data was not coded independently by a second researcher, as the codes were populated with data in NVivo, their meaning was discussed between the two researchers during weekly meetings. Also, new codes were developed as subtler distinctions between some of the avatar-self relationships became evident. In the next section we outline the insights from our data analysis.

Research Insights

Figure 2 summarizes the various types of avatar-self relationships along the two primary dimensions: tele- and social presence. In light of page limits, discussion of various facets that constitute the social presence dimension will be omitted. Nevertheless, the self-reflexive aspect of social presence will be discussed. Interview quotes will be used to illustrate the different forms of the avatar-self relationships. Throughout this discussion, participants' names, both their own and their avatars', are disguised.

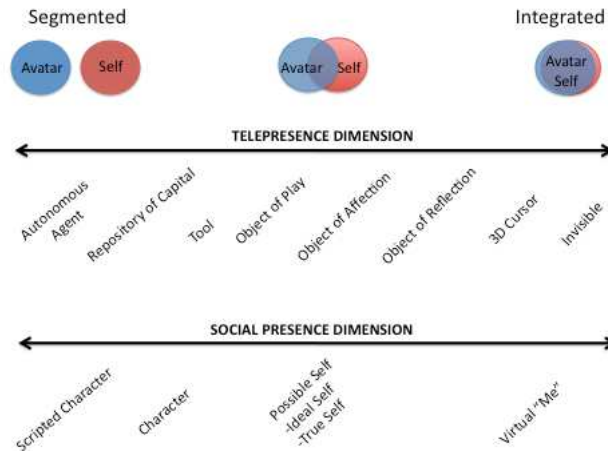


Figure 2: Enacted Avatar-Self Relationships

Telepresence: Interaction with the Avatar

The top half of Figure 2 outlines the various avatar-self relationships that were enacted as part of the communicator's interaction with his/her avatar. As telepresence is defined as the communicator's sense of being there, that is, being present and engaged in the virtual world, the greater the integration between avatar and self, the greater the communicator's sense of immersion. Thus, situations in which the avatar disappears from view as the communicator engages the virtual environment and others are typically indicative of highly immersive experiences in which communicators are unaware of the mediating role that their avatars play. Thus the communicator feels one with his/her avatar, implying a high degree of integration.

Conversely, the more clear-cut the boundaries between the avatar and the self, the less immersive the communicators' experience of the virtual world. For instance, when the avatar is seen as an independent agent, there is a clear segregation between the communicator and his/her avatar and a sense that they inhabit separate worlds. Below, we provide descriptions and empirical illustrations of each of these enacted forms of telepresence.

The Invisible Avatar

A number of research participants reported incidents in which they were so engaged with or immersed in activities in Second Life, that they became oblivious of their avatar. In these instances, it was as if their experience of Second Life was unmediated. This frequently happened when participants were so engaged in interactions that their screen was covered in chat windows, thus blocking the SL scene. One described his experience of SL as synonymous with working on his desktop: "[My avatar] is parked. The camera is usually far away and I've got really nothing to do with the avatar himself. And, I've got several screens up in front of me. Search, a note card, chat boxes, and IMs and I'm actually just working at a screen level. It's just like working on my desktop really."

Particularly when participants were engaged in intense and frequently intimate interactions, they perceived the avatar and the graphical interface as a constraint that prevented them from creating and experiencing the kinds of scenes that their imagination was capable of. They thus resorted to pure text. One participant explained: "I'm not as visual based as other people are. So sometimes, I find myself even covering a picture and just focusing on the text,

the chat. So sometimes, it doesn't even matter whether or not he's [her sub] in front of me. In fact, I think at times, we have deeper conversations when he's not in front of me because we have to rely on the text."

The Avatar as 3D Cursor

All participants recounted incidents in which they relied on their avatar as their means of entering and immersing themselves in Second Life. This is not surprising, as the avatar is the equivalent of a cursor in text-based and 2D software. As a 3D cursor the avatar is a technology that extends the senses (McLuhan 1964). Participants relied on the avatar to reach into the virtual world and experience it first-hand.

Compared to the "invisible" avatar-self relationship, in this relationship people experience the virtual world through their avatar even though they are not looking at it. For instance, when one participant who had walked a labyrinth in Second Life in order to "walk off" and "leave behind" some real-life worries and concerns, was asked whether this experience had the same effect as walking a labyrinth in real life, she replied: "Yeah, it actually did. For most of that, I had put it into mouselock mode so that I was actually seeing it as if I was walking it instead of watching [my avatar] walk through it."

Another participant who generally left her camera at the default setting, where she is looking over her avatar's shoulder, highlighted that her avatar was a way for her to attend and participate in Second Life meetings: "I don't look at her [her avatar]. Normally, I am her; I'm not looking at her. If I'm sitting at a meeting or whatever. Very seldom do I actually look at my avatar. ...I look at just the general picture."

While a high degree of avatar-self integration at a cognitive level seemed somewhat straightforward to this participant, another participant indicated that integration at the emotional and kinesthetic level sometimes required a little effort. For instance, she found it helpful to change her avatar's clothes so that they were appropriate for a given scene. For instance, to sit on the beach she would don a swimsuit, hat and sunglasses in order to connect more fully with her avatar and the virtual space. "Well, for me, it takes me into the moment. So, we're sitting on this little rock or this little island out there and I have my swimsuit, my shades on, and I can almost hear the seagulls in the background and the water, and feel the breeze and everything."

The Avatar as Object of Reflection

According to Turkle (2007), simulations are evocative objects, that is, objects that people think with. As evocative objects avatars are somewhat separate from their owner, and yet complexly intertwined with them. The following three avatar-self relationships explore different aspects of this avatar-as-object relationship.

A number of participants used their avatar to reflect on their real life selves, current and future. As the telepresence dimension focuses on the communicator's individual interaction with their avatar, the examples revolve primarily around physical appearance rather than more socially-oriented aspects like personality. One participant who regularly changed her avatar's appearance, including hair and make-up, to reflect her mood in real life, indicated disappointment at her inability to drastically change her appearance in real life: "[Her look is] very different; it's what I would like to do. If I was brave I would cut and dye my hair black and chop it off, and make it real funky. But I don't."

While most participants joked that their avatars were much thinner than they were in real life, the following quote illustrates how some participants went further in relating their avatar to real-life decisions: "[My avatar] is me thin, for one; where I would love to be again. But I've realized since last year that I'm never gonna look like her again, and that's okay. But I do plan to probably get the gastric band and lose this 50 to 75 [pounds]. I really don't wanna lose all the weight I'm supposed to, because at this age that's kinda scary (laughing). All the floppy skin just frightens the heck out of me, you know (laughing). ... I don't wanna be Barbie. I don't need to be Barbie. I just want to look okay and have something of what [my avatar] has."

The Avatar as Object of Affection

In a number of instances, the participants' interactions with their avatars resembled that of a child playing with a doll, lovingly dressing her and making her look pretty. As the two quotes below indicate, the adoration of the avatar was deeply rooted in and related to the identity the communicator constructed for herself in both real and Second

Life. “When I look at Abigail [avatar’s name] I think she’s just cute and she’s pretty and she’s like something my grandmother said to me years ago and it’s just always stuck. She always tells me to be sweet. “Be sweet!” It’s endearing to me. Because I have connected with the avatar, Abigail. And you know, it’s almost as if she’s my child or something.”

“That’s one of my favorite outfits. I love that outfit! She’s a naughty, naughty girl. (laughing) ... I love that name Gata [avatar’s last name, which means foxy lady in Portuguese]. It’s so pretty! Angela Gata. It sounds so cute! So now I’m an angelic fox. (laughing)”

The Avatar as Object of Play

Many of the participants laughed at their avatars and their interactions with them during the interviews. Even though most of them did not perceive SL as a game, they were nevertheless playful with their avatars. For instance, many would try on freebie clothes or experiment with new gestures and then laugh at their avatar’s appearance when mishaps occurred.

One participant went further than most in his play with his avatar. In particular, he constantly created stories to make otherwise ordinary events more meaningful and fun. For instance, when he went looking for new long black hair for his avatar he tried on some long gray hair. He recounted the incident: “And it looks so good! I was like, “wow! (laughing) Oh, I like that!” I’ve been wearing it ever since. ... And people ask me [about my new gray hair] and my answer is, ‘Oh my god, I know! I worked hard on Friday morning and I looked in the mirror and suddenly I realized my hair has gone gray overnight and it’s this blimmen [new] sim that I’ve been waiting for [Linden Labs to deliver].” When asked why he felt the need to create an entire narrative to explain his new hair, he responded: “Yeah, well, maybe that’s some of the game-like elements coming out. I mean, why make this boring? It’s what we’re doing for fun.”

The Avatar as Tool

Because of the commercial opportunities in Second Life, many residents work. In this study, five of the participants ran businesses in Second Life. One designed and sold a line of Asian clothing; another built sims for real-life businesses; there was one photographer and two property managers. In addition, many of the participants whose primary purpose for being in SL was social, worked as dancers or hosts in dance clubs. It is therefore not surprising that they used their avatars as tools to help them ply their trade. The two examples below illustrate the segregation evident in this avatar-self relationship.

For instance, the sim developer described how she created a body for her own avatar so that she could use it as “a ruler” during her building activities: “I made a special avatar for this project that is a medium between my short self—my 5-ft-3 [avatar] and 5-ft-6 with heels on -- and giant [friend’s avatar] style. ‘Cause [friend’s avatar] is like a 7-ft tall; she’s an Amazon girl. ... It will be awfully hard to build to scale of that [tall] avatar because we use our avatars literally as a ruler—we walk up to doors and say, ‘Yeah, I can get through here. And, ... yeah, this is normal from a visual point of view.”

Another participant who was a school teacher in real life and a host in a dance club in Second Life illustrated how she used her avatar as a way of being present in SL in order to live up to her commitments as an employee without really being there: “I was swamped with [real life work] and didn’t really want to be there [at the dance club]. ... I had this screen shrunk down so it was only half of my monitor and the other half I was working on the test and I’d go back periodically and interject things in open chat, so that they would know – or think – that I was really paying attention. ... I had agreed that I was going to be at that shift that night, and so I had to be there because they didn’t have anybody else who could be. And sometimes when you’re there, you’re multitasking and doing other things at the same time, but you’re still helping out at the club because you’re still there.”

The Avatar as Repository of Capital

In Second Life, as in most virtual worlds, avatars accumulate resources and the more valuable the items in their inventory, the greater their capabilities. In game worlds, avatars accumulate gold, for instance, in order to level up. In Second Life, avatars accumulate possessions such as clothes, houses and gestures, many of which are not transferable. Thus, losing or abandoning one’s avatar implies a loss of one’s investment in time and money. As one

participant who kept an avatar whose name she no longer considered appropriate, explained: “She’s the one that owns the land and she’s the paid member, and I don’t want to have to transfer, like the house. I would lose the house if I tried, because it’s no transfer. So I’ll probably keep her, if for no other reason so I just don’t have to give up my land.”

It is this non-transferability of objects in Second Life that encourages residents to develop a stable identity for their avatars; what Shiano (1999) refers to as pseudonymity. It was therefore not surprising that a number of participants were very concerned about their avatar’s reputation and social capital. In fact, as the following quote outlines, they created alts in order to preserve their investment in their main avatar: “My alt account will do the dirty work. ... He was specifically created to do assassinations. And if he gets booted, then fine. He’s never had a ban against him, but he could handle that. ... [My main avatar has] got too much invested! If there was a complaint against him, there’s just no way [I could risk that]. No way!”

The Avatar as Autonomous Agent

At the segregation end of the telepresence continuum we find the avatar as autonomous agent. Only a few participants noted this avatar-self relationship, which was marked by a clear sense that their avatar had agency and a life of its own. This sense of avatar agency was in large part related to the animations programmed into the avatar and/or the objects, with which the avatar is interacting. This creates the impression that the avatar is alive even though his/her owner is away from the keyboard.

One participant described an incident where she had left Second Life to do something in real life and returned to a scene where her avatar, Abigail, was sitting on the swing where she had left her: “It just seemed like she was just sitting there, just patiently waiting, just looking in different directions, playing with her necklace. And it really did seem like I was kinda sneaking up on her. I didn’t want to disturb her. As a matter of fact, ... it just seemed like at that moment, Abigail was Abigail, in her self. And I really had nothing to do with controlling her avatar at that point or you know, controlling the shot, or anything like that. It just seemed like she was just sitting there, patiently waiting for me to come back.” What is particularly interesting about this quote is that the participant suggests that Abigail is more than an avatar, namely an independent being that **has** an avatar.

Social Presence: Interactions as an Avatar

The bottom continuum in Figure 2 summarizes in broad terms the avatar-self relationships that the participants enacted as they *interacted as avatars* with others in Second Life. This dimension focuses on the communicator’s (re)presentation of self to others as well as to him/herself. As our research model (Figure 1) outlines, the social presence dimension needs to be considered in terms of the multiple facets or layers that constitute the self in order to understand communicators’ (re)presentation fully. Below, we will limit our discussion to a high-level overview of the main forms of the avatar-self relationship along the segregation-integration continuum.

The Avatar as Virtual “Me”

Virtually every participant in this study recounted instances when their avatar represented them and where they perceived no distinction between themselves and their avatar. Indeed, some participants maintained that they never perceived their avatar as separate from them. They described the avatar as a virtual “me” in a number ways:

“I don’t look at him as a separate person really. I look at him as me. ... I mean, like I said, when you’re talking about [my avatar] it’s like you’re talking about me. I mean, I am [my avatar]; that’s what it is.”

“[My avatar’s] personality is me. It really is. Of course, I’ve had a couple of alts and those ended up being like where I really didn’t like it because if you’re going to be an alt then that means you don’t really want to be who you are. So, then you end up acting and saying things different so it ends up not being you. And then it feels like I’m putting on a mask. So, I don’t really play them anymore. ... I really don’t play him, he is me, he is my personality. ... We’re kind of the same person. He’s pixels and I’m a real person but as far as the personality and the feelings and everything, [my avatar], it’s the same person.”

“Tanya is me. I am Tanya, Tanya is me. Tanya is just my virtual body. You say you see me, you know, in that little ball. You see me standing there because it is me, you know. I don’t see any separation between

Tanya, the avatar, and Tanya, the person. They're one and the same. ... It's still the same person. So Tanya [avatar] and Tanya [participant] feel exactly the same because we are one. Tanya, the avatar is no different from Tanya the person, so I don't really differentiate."

It is interesting to note that many of the participants who perceived no separation between themselves and their virtual (re)presentation had also named their avatars with (i) the real-life first name, as was the case with Tanya (the third interview quote), (ii) their first name spelled backwards (e.g., Kcaj for Jack) or misspelled in some other way (e.g., LeahAnne for LeAnn), or (iii) their real-life last name as their avatar's first name.

The Avatar as Possible Self

One of the attractions of virtuality is that it liberates people from the constraints imposed by reality, including their corporeality (Nakamura 2002). Virtual worlds are thus a place where individuals can explore their possible selves, that is, the person who they might become, who they would ideally like to become or who they are afraid of becoming (Markus and Nurius 1986). Many noted that they did things in Second Life, such as participate in re-enactments, because they had neither the time nor the money to do them in real life. Others engaged in deviant activities in Second Life, such as BDSM, because they were unable to fully participate in them in real life.

Below we highlight two examples of people exploring their possible selves. The first illustrates experimentation with an ideal self, and the second is an example of an exploration of a true self.

One participant, a 22-year-old who worked as a nanny in real life, owned her own island in Second Life and had developed a relatively successful property management business. She explained her use of her avatar as follows: "I have my Associate's degree in Business Administration that I may never use because I'm a nanny. I have my goals and stuff in real life to open my own day care center, but until then I don't want to lose the experiences that I had from getting my degree and so this gives me an outlet to keep my skills and hone them, and keep them sharp and everything. ... And the daycare, it's at least five or six years down the road, because I want to get all my degrees first. I want to be set; I want to be confident, so when I open my daycare, it's not going to fail. So until then, she's my outlet. I can come here and do my business head here and see that it's working here and then take some of those things here and then implement them into the daycare business."

In contrast to developing a future, possible self, the following is an example of a participant exploring her true self through an avatar. This participant had created a second avatar in order to explore her real life bi-sexuality. "I've set [my alt] up because I am bisexual, and so in real life, being married – my husband knows and he doesn't care. But when you're married, that doesn't allow for anything else. So [my alt] is that other side of me that, if I was by myself, what would I do and who would I be. ... She's me as I am. She just doesn't have the kids there."

While she found it helpful to find a community of people that could help her explore what it was like to be bi-sexual, she also experienced the kind of criticism and dismissive attitude that deviance frequently elicits. "But that's one of the few clubs that I found where they don't really care if you're bi or if you're gay and there's even some straight girls that go there just to hang out just because they don't really make a distinction They don't have a lot of bias against anybody who say's that they're bi ... [In other places] it's kind of they get rather impatient sounding or irritated when you start talking about it. That it's kind of the fad thing to be bi now and why are you. You know, why are you just going along with the fad; that kind of attitude."

The Avatar as Character

The notion of avatar as character is frequently associated with online role-play or the playing out of a narrative either of the participant's own making or a narrative that has been developed by an independent, external author. In this avatar-self relationship we focus on the former; the latter will be discussed as the last point on the social presence continuum.

Only three of the participants described their interactions in Second Life as role-play and were able to articulate a relatively coherent identity for the character their avatar represented. Nevertheless, there were others who described incidences in which their avatars were like characters in a narrative, but these were more emergent and situated rather than pre-defined.

One participant, a man who "played" a female character, a BBW (big beautiful woman) by the name of Ella in Second Life, described his relationship with her as follows: "Ella's Ella. To be real honest about it, yeah, I guess

Ella is a part of me obviously because I play her and everything like that. But Ella's Ella. And I don't know how to explain it any better than that. Again, you go in, you play and it's a game and that's the way you play the game. It's just I let Ella be Ella, and she reacts and acts the way Ella would act and react to whatever situation she's in. You know, like this is how Ella would react. It's not necessarily how I would react. ... I let Ella be Ella. And in a subconscious level I guess, Ella has her own personality. Ella has her own way of doing things. Ella is Ella! ... Ella is not me. Personally, I'm not effeminate really in any way or anything like that and I do not have any kind of, I guess you could say, feminine personality traits myself. I mean, I am who I am, and Ella is somebody completely different. As to why she exists the way she does, I'm a little stumped about it too."

Even though none of the participants in this study had non-human avatars, one participant worked with a scripter who presented himself as a griffin—part cat, part eagle—in Second Life. He described their interactions as much more playful, complex and rewarding than they would be if they were presenting themselves as male co-workers: "There is always a lot of role play that goes on in our conversations. I always give him a scratch or a pat or I'll feed him. He'll purr. He'll take the problem that I throw to him and he'll claw it apart. ... It's always fascinated me how I have got such a close relationship and affectionate relationship with him. Even though we're both male, I have well crossed over the lines that I would ever do with any other male. I don't touch another man. ... But the relationship that I have with him as a cat makes it so much easier."

The Avatar as Scripted Character

None of the participants in this research were engaged in organized role-play as part of medieval or fantasy sims, or Gorean communities (Bardzell and Odom 2008), for instance. Nevertheless, some participants had been members of such organized role-play in the past and noted that it required too much commitment to play a scripted character in a community, as others' enjoyment of the role-play depended on one's participation, enthusiasm and skill.

Furthermore, one participant had named his avatar Mithrandir, one of the lesser-known names for Gandalf in the Lord of the Rings trilogy. Even though he was not engaged in Tolkienesque role-play, he reported that occasionally people recognized the name and that this would lead to interesting conversations with people who had read the Tolkien novels as carefully as he had. In other words, his avatar signaled membership in a community of discerning Lord of the Rings followers.

Reflexivity: Seeing the Self in the Avatar as Social Being

As outlined in our conceptual framework (Figure 1), there is a reflexive relationship between the communicator and the avatar as a social being. In other words, as the communicator watches her avatar in interactions with others, she makes herself present to herself. Most participants reported that they had learned something from their avatars. Below are some examples of this reflexive relationship:

"I have learned so much from being a virtual character. When I first came into virtual environments way back in 1995, I was very self-righteous, judgmental, impatient, arrogant, a horrible manager. And she has taught me how to kinda step back and listen better, though I still have a problem listening 'cause I like to talk (laughing)."

"Personality-wise, she's taught me a lot about my personality. She's taught me that it's okay to be guarded in a lot of ways around certain people and how to put up the walls. Because I mean, in my real life, I'm a pretty out-there person. I'm pretty open; I put myself out there and go and try to be open with everybody and want to make new friends and stuff like that. But in Second Life, there's a lot of people out there that are just in it to hurt people. So she's kind of taught me how to build up the walls and when it's appropriate to take them down, and when it's not appropriate to take them down."

"I guess the reason that I created her was just because in real life there's only about three or four people who know that I am bi. And it's kind of isolating to [say], "okay, this is who I am," but it's not. It's not the life I live. It's not. And it's very frustrating sometimes not to have a dichotomy and I've explored that a lot, psychologically, having two different sides to myself, kind of. And it's kind of funny that I created that on SL, too. There's still the two different sides in me. I don't have one av who's bi and it's okay to be, whatever. I have, "okay, here's my av who's with my husband, and then here's my other av." So, yeah, it's very interesting. I think about that a lot. But I'm still not one person who's everything."

Discussion and Research Implications

As educators, companies and marketers are increasingly interested in using virtual world for ‘serious’ purposes, the relationship between communicators and their avatars, that is, the avatar-self relationship, is becoming increasingly important to understand. Indeed, the avatar self-relationship highlights the problematic nature of the “who” of a communication genre such as a virtual-world class, meeting or advertisement. Genres are socially recognizable communicative forms such meetings, reports, memos and letters of recommendation (Orlikowski and Yates 1994). They represent communicative acts that are associated with a set of expectations about the purpose, content, format, place, and time of the interaction. More succinctly, these expectations can be characterized as the why, what, how, where, when, and who of a communicative act (Yates and Orlikowski 2002).

As this study shows, communicators in virtual worlds adopt different stances towards their avatar in response to various personal and situational stimuli that emanate from both their real and ‘second’ life. Furthermore, they cycle through a variety of avatar-self couples, particularly on the telepresence dimension. This implies that educators, managers and therapists should not assume a particular relationship in avatar-mediated communication contexts. Instead, they should articulate their expectations with regard to the various elements of the virtual-world genre that they wish to enact. With regard to the “who” element, they should pick among the four social presence categories (i.e., virtual me, possible self, character and scripted character), as these appear to be less dynamic than the telepresence categories. Nevertheless, the avatar-self relationships associated with telepresence can be used to develop user-interfaces, usage guidelines or exercises that help communicators activate a desired social presence.

As the different genre elements need to exhibit coherence when developing new virtual-world genres, we briefly illustrate one of these relationships, namely between “why” (i.e., genre purpose) and “who.” Brown and Thomas’ (2007) research on the role of play in learning and problem solving suggests that online games encourage people to use their imagination to reason across real-virtual, work-play, and reality-fantasy boundaries and to close the gaps between these different worlds. Coupling their findings with our research, we suggest that avatar-self relationships located toward the segregation end of the continuum are more conducive for metaphorical reasoning, which requires significant amounts of imagination, whereas avatar-self relationships closer to the integration end of the continuum are more conducive for analogical reasoning, which demands less imagination.

In addition to these practice implications of our research, our multi-dimensional framework, also provides a theoretical scaffolding for future analytical work examining the ways in which individuals immerse themselves in virtual worlds and (re)present themselves to others and to themselves through their avatars. Future research opportunities implied by our framework include:

- The exploration of the facets that constitute the social presence dimension: for instance, exploring the role of the avatar’s body and name in the construction of a “virtual ‘me’” or a “scripted character” relationship.
- The examination of the interactions between the tele- and social presence dimension: for instance, examining how the avatar as “object of play” helps or hinders an avatar as “virtual ‘me’” relationship.
- The elaboration of the “scripted character” and “autonomous agent” relationships through further empirical research: for example, focusing on Second Life residents who are engaged in organized role-play and/or present themselves in non-human form (e.g., furies, fairies, machines).
- The validation of the avatar-self relationships presented here in other virtual worlds like World of Warcraft.

For this study, we relied on photo-diary interview method, which is well suited to virtual world research. This method approximates observational research and is particularly useful in virtual world, in which first-hand simultaneous observation of both the communicator and his/her avatar is very challenging. Photo-diaries afford some possibility of gaining access to naturally occurring events, as well as their meaning and significance to the participants.

Conclusion

In this study of the avatar-self relationship we have identified eight different types of avatar-self relationships that communicators enact through interactions with their avatars in order to achieve immersion in the virtual world (telepresence). Additionally, we identified four high-level avatar-self relationships that communicators enact to create a sense of being there with others (social presence).

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